

CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS

SOLVENT PREWET AND METHOD TO DISPENSE THE SOLVENT PREWET

Applicant: John Whitman

Serial No.: 09/941,476

The paragraph beginning on page 7, line 15:

Conventional processes primarily employ a three-component photoresist, with either ethyl lactate (EL) or propyleneglycol monomethylether acetate (PGMEA) as the preferred solvent component. Both of these substances have a rather high evaporation rate, however, which shrinks the process control window. To compensate, conventional systems use more photoresist as well as a greater percentage of solvent to total photoresist volume. In contrast, according to one aspect of the present invention, a low vapor-pressure solvent is used. In one embodiment a mixture of aliphatic ester and diacetone alcohol is used as the solvent component. The ratio of the materials can range from 10% ester and 90% alcohol, to 30% ester to 70% alcohol. The dissipation rate of this solvent is significantly reduced over conventional solvents because diacetone alcohol has a heavier molecule, creating a very low pressure solvent. The rate of evaporation is up to ten times lower than that of the conventional solvents. One direct result is that semiconductor processing incorporating this type of solvent requires very little solvent to achieve very good resist thickness profiles. With the diacetone alcohol solvent, the process uses as little as 0.3-1.0 cc solvent prewet solution per wafer (as compared to 1.0 cc or greater solvent solution per wafer).